

PUBLIC UTILITIES COMMISSION  
505 Van Ness Avenue  
San Francisco CA 94102-3298



**Southwest Gas Corporation**  
**GAS (Corp ID 905)**  
**Status of Advice Letter 1197G**  
**As of April 27, 2022**

Subject: Modifications to Gas Rule 22 to Provide Lower and Upper Action Level Specifications for Ammonia, Mercury, and Siloxanes Pursuant to Decision 20-12-031

Division Assigned: Energy

Date Filed: 12-30-2021

Date to Calendar: 12-31-2021

Authorizing Documents: D2012031

<b>Disposition:</b>	<b>Accepted</b>
<b>Effective Date:</b>	<b>04-13-2022</b>

Resolution Required: No

Resolution Number: None

Commission Meeting Date: None

CPUC Contact Information:

[edtariffunit@cpuc.ca.gov](mailto:edtariffunit@cpuc.ca.gov)

AL Certificate Contact Information:

Valerie Ontiveroz

702-876-7323

[valerie.ontiveroz@swgas.com](mailto:valerie.ontiveroz@swgas.com)

**PUBLIC UTILITIES COMMISSION**  
505 Van Ness Avenue  
San Francisco CA 94102-3298



To: Energy Company Filing Advice Letter

From: Energy Division PAL Coordinator

Subject: Your Advice Letter Filing

The Energy Division of the California Public Utilities Commission has processed your recent Advice Letter (AL) filing and is returning an AL status certificate for your records.

The AL status certificate indicates:

- Advice Letter Number
- Name of Filer
- CPUC Corporate ID number of Filer
- Subject of Filing
- Date Filed
- Disposition of Filing (Accepted, Rejected, Withdrawn, etc.)
- Effective Date of Filing
- Other Miscellaneous Information (e.g., Resolution, if applicable, etc.)

The Energy Division has made no changes to your copy of the Advice Letter Filing; please review your Advice Letter Filing with the information contained in the AL status certificate, and update your Advice Letter and tariff records accordingly.

All inquiries to the California Public Utilities Commission on the status of your Advice Letter Filing will be answered by Energy Division staff based on the information contained in the Energy Division's PAL database from which the AL status certificate is generated. If you have any questions on this matter please contact the:

Energy Division's Tariff Unit by e-mail to  
**[edtariffunit@cpuc.ca.gov](mailto:edtariffunit@cpuc.ca.gov)**

**ADVICE LETTER (AL) SUSPENSION NOTICE**  
**ENERGY DIVISION**

Utility Name: Southwest Gas Corporation.

Date Utility Notified: February 1, 2022

Utility Number/Type: U 905 G

[X] E-Mailed to: [valerie.ontiveroz@swgas.com](mailto:valerie.ontiveroz@swgas.com)

Advice Letter Number(s): AL 1197 G

ED Staff Contact: Karin Sung

Date AL(s) Filed: December 30, 2021

ED Staff Email: [karin.sung@cpuc.ca.gov](mailto:karin.sung@cpuc.ca.gov)

Utility Contact Person: Valerie J. Ontiveroz

ED Staff Phone No.: 213-266-4743

Utility Phone No.: 702-364-3446

**[X] INITIAL SUSPENSION (up to 120 DAYS from the expiration of the initial review period)**

This is to notify that the above-indicated AL is suspended for up to 120 days beginning February 1, 2022 for the following reason(s) below. If the AL requires a Commission resolution and the Commission's deliberation on the resolution prepared by Energy Division extends beyond the expiration of the initial suspension period, the advice letter will be automatically suspended for up to 180 days beyond the initial suspension period.

A Commission Resolution is Required to Dispose of the Advice Letter

Advice Letter Requests a Commission Order

Advice Letter Requires Staff Review

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The expected duration of initial suspension period is 120 days

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**[ ] FURTHER SUSPENSION (up to 180 DAYS beyond initial suspension period)**

The AL requires a Commission resolution and the Commission's deliberation on the resolution prepared by Energy Division has extended beyond the expiration of the initial suspension period. The advice letter is suspended for up to 180 days beyond the initial suspension period.

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If you have any questions regarding this matter, please contact Karin Sung at [Karin.sung@cpuc.ca.gov](mailto:Karin.sung@cpuc.ca.gov).

cc:

EDTariffUnit



## SOUTHWEST GAS CORPORATION

January 4, 2022

ATTN: Tariff Unit, Energy Division  
[edtariffunit@cpuc.ca.gov](mailto:edtariffunit@cpuc.ca.gov)  
California Public Utilities Commission  
505 Van Ness Avenue, Room 4005  
San Francisco, CA 94102

Subject: Southwest Gas Corporation (U 905 G)  
Advice Letter No. 1197-G – Substitute Sheet Submission

Enclosed please find Southwest Gas Corporation's (Southwest Gas) tariff Sheet No. 279.14.16 and Attachment B (tariff sheet redlines) included in Advice Letter No. 1197, submitted on December 30, 2021. Advice Letter No. 1197 contains modifications to Rule No. 22 - Standard Renewable Gas Interconnections to the Utility's Pipeline System, to provide lower and upper action level specifications for ammonia, mercury, and siloxanes in Renewable Gas.

Per the request of the Public Advocates Office, and to maintain consistency with other utilities, Southwest Gas revised tariff Sheet No. 279.14.16 to include the units in mg/m<sup>3</sup> for Ammonia in Table 1 of Sheet 35.

Southwest Gas respectfully requests that the enclosed tariff sheet and tariff sheet redlines replace the originally submitted tariff sheet and tariff sheet redlines in Advice Letter No. 1197. No other components of Advice Letter No. 1197 are affected because of this correction.

In accordance with General Order 96-B, General Rule 7.5.1, Southwest Gas is serving copies of this substitute sheet submission to the utilities and interested parties shown on the attached list.

Respectfully submitted,  
SOUTHWEST GAS CORPORATION

By:   
Valerie J. Ontiveroz  
Attachment

## **Distribution List**

Advice Letter No. 1197-G

In conformance with GO 96-B, General Rule 4.3

The following individuals or entities have been served by electronic mail:

Amy Yip-Kikugawa, Acting Director  
Public Advocates Office  
[amy.yip-kikugawa@cpuc.ca.gov](mailto:amy.yip-kikugawa@cpuc.ca.gov)

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Southern California Gas Company  
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San Diego Gas & Electric Company  
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Pearlie Sabino  
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California Public Utilities Commission  
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RULE NO. 22

Sheet 35

**STANDARD RENEWABLE GAS INTERCONNECTIONS  
TO THE UTILITY'S PIPELINE SYSTEM (Continued)**

**K. RENEWABLE GAS QUALITY AND SPECIFICATIONS (Continued)**

<b>Table 1 (Continued)</b>						
<b>Maximum Constituent Concentrations</b>						
<b>Renewable Gas Injection Constituents</b>				<b>Testing for Gas Source</b>		
	<b>Trigger Level</b>	<b>Lower Action Level</b>	<b>Upper Action Level</b>	<b>Non-Hazardous Landfill</b>	<b>Dairies</b>	<b>Other<sup>4</sup></b>
<b>Integrity Protective Constituents<sup>3</sup></b>						
Ammonia	0.0004% (3 mg/m <sup>3</sup> )	0.001% (7 mg/m <sup>3</sup> )	0.0025% (18 mg/m <sup>3</sup> )	■	■	■
Hydrogen	0.10%	TBD <sup>5</sup>	TBD <sup>5</sup>	■	■	■
Mercury	0.08 mg/m <sup>3</sup>	TBD <sup>5</sup>	TBD <sup>5</sup>	■	■	■
Siloxanes	0.05 mg Si/m <sup>3</sup>	0.1 mg Si/m <sup>3</sup>	0.3 mg Si/m <sup>3</sup>	■	■	■
<b>Notes:</b>						
1. Base Utility Gas Specifications are identified in K1.						
2. Health Protective Constituents (HPC) are shown in Table V-3 of the CARB/OEHHA Report.						
3. Integrity Protective Constituents are shown in Section 4.4.3.3 of D.14-01-034 and identified as pipeline integrity protective constituents.						
4. Other organic sources, includes all Biogas sources other than landfill and dairy manure, including but not limited to, a sewage treatment plant or wastewater plant ("Publicly Owned Treatment Works" or "POTW").						
5. The Lower and Upper Action Levels will be reviewed in the next update proceeding.						
6. Testing requirement will be the stricter of the stated Renewable Gas values or other tariff requirements.						
7. The Interconnector that meets this Rule's Section K.4.b certification requirements shall have reduced siloxanes testing requirements. Utility, at its discretion and at its own cost, may still test pursuant to Utility's applicable tariff rules. If the Utility test results show the siloxanes levels exceed the Lower Action Level, the full siloxanes testing requirements will apply as described in this Rule.						

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**ADVICE LETTER NO. 1197**  
**(Substitute Sheet Submission)**  
**ATTACHMENT B**

Tariff Sheet Redlines

RULE NO. 22

Sheet 35

**STANDARD RENEWABLE GAS INTERCONNECTIONS  
TO THE UTILITY'S PIPELINE SYSTEM (Continued)**

**K. RENEWABLE GAS QUALITY AND SPECIFICATIONS (Continued)**

Table 1 (Continued) Maximum Constituent Concentrations						
Renewable Gas Injection Constituents				Testing for Gas Source		
	Trigger Level	Lower Action Level	Upper Action Level	Non-Hazardous Landfills	Dairies	Other <sup>4</sup>
<b>Integrity Protective Constituents<sup>3</sup></b>						
Ammonia	<del>0.0010004%</del> <u>(3 mg/m<sup>3</sup>)</u>	<del>TBD<sup>5</sup>0.001%</del> <u>(7 mg/m<sup>3</sup>)</u>	<del>TBD<sup>5</sup>0.0025%</del> <u>(18 mg/m<sup>3</sup>)</u>	■	■	■
Hydrogen	0.10%	TBD <sup>5</sup>	TBD <sup>5</sup>	■	■	■
Mercury	0.08 mg/m <sup>3</sup>	TBD <sup>5</sup>	TBD <sup>5</sup>	■	■	■
Siloxanes <sup>8</sup>	<del>0.040.05</del> mg Si/m <sup>3</sup>	0.1 mg Si/m <sup>3</sup>	<del>TBD<sup>5</sup>0.3 mg</del> <u>Si/m<sup>3</sup></u>	■	■	■

**Notes:**

- Base Utility Gas Specifications are identified in K1.
- Health Protective Constituents (HPC) are shown in Table V-3 of the CARB/OEHHA Report.
- Integrity Protective Constituents are shown in Section 4.4.3.3 of D.14-01-034 and identified as pipeline integrity protective constituents.
- Other organic sources, includes all Biogas sources other than landfill and dairy manure, including but not limited to, a sewage treatment plant or wastewater plant ("Publicly Owned Treatment Works" or "POTW").
- The Lower and Upper Action Levels will be ~~established~~ reviewed in the next update proceeding.
- Testing requirement will be the stricter of the stated Renewable Gas values or other tariff requirements.
- The Interconnector that meets this Rule's Section K.4.b certification requirements shall have reduced siloxanes testing requirements. Utility, at its discretion and at its own cost, may still test pursuant to Utility's applicable tariff rules. If the Utility test results show the siloxanes levels exceed the Lower Action Level, the full siloxanes testing requirements will apply as described in this Rule.





# ADVICE LETTER SUMMARY

## ENERGY UTILITY



MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No.:

Utility type:

ELC       GAS       WATER  
 PLC       HEAT

Contact Person:

Phone #:  
E-mail:  
E-mail Disposition Notice to:

EXPLANATION OF UTILITY TYPE

ELC = Electric      GAS = Gas      WATER = Water  
PLC = Pipeline      HEAT = Heat

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #:

Tier Designation:

Subject of AL:

Keywords (choose from CPUC listing):

AL Type:  Monthly     Quarterly     Annual     One-Time     Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #:

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL:

Summarize differences between the AL and the prior withdrawn or rejected AL:

Confidential treatment requested?  Yes     No

If yes, specification of confidential information:

Confidential information will be made available to appropriate parties who execute a nondisclosure agreement. Name and contact information to request nondisclosure agreement/ access to confidential information:

Resolution required?  Yes     No

Requested effective date:

No. of tariff sheets:

Estimated system annual revenue effect (%):

Estimated system average rate effect (%):

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected:

Service affected and changes proposed<sup>1</sup>:

Pending advice letters that revise the same tariff sheets:

<sup>1</sup>Discuss in AL if more space is needed.

**Protests and all other correspondence regarding this AL are due no later than 20 days after the date of this submittal, unless otherwise authorized by the Commission, and shall be sent to:**

CPUC, Energy Division  
Attention: Tariff Unit  
505 Van Ness Avenue  
San Francisco, CA 94102  
Email: [EDTariffUnit@cpuc.ca.gov](mailto:EDTariffUnit@cpuc.ca.gov)

Name:  
Title:  
Utility Name:  
Address:  
City: State:  
Telephone (xxx) xxx-xxxx:  
Facsimile (xxx) xxx-xxxx:  
Email:

Name:  
Title:  
Utility Name:  
Address:  
City: State:  
Telephone (xxx) xxx-xxxx:  
Facsimile (xxx) xxx-xxxx:  
Email:

## ENERGY Advice Letter Keywords

Affiliate	Direct Access	Preliminary Statement
Agreements	Disconnect Service	Procurement
Agriculture	ECAC / Energy Cost Adjustment	Qualifying Facility
Avoided Cost	EOR / Enhanced Oil Recovery	Rebates
Balancing Account	Energy Charge	Refunds
Baseline	Energy Efficiency	Reliability
Bilingual	Establish Service	Re-MAT/Bio-MAT
Billings	Expand Service Area	Revenue Allocation
Bioenergy	Forms	Rule 21
Brokerage Fees	Franchise Fee / User Tax	Rules
CARE	G.O. 131-D	Section 851
CPUC Reimbursement Fee	GRC / General Rate Case	Self Generation
Capacity	Hazardous Waste	Service Area Map
Cogeneration	Increase Rates	Service Outage
Compliance	Interruptible Service	Solar
Conditions of Service	Interutility Transportation	Standby Service
Connection	LIEE / Low-Income Energy Efficiency	Storage
Conservation	LIRA / Low-Income Ratepayer Assistance	Street Lights
Consolidate Tariffs	Late Payment Charge	Surcharges
Contracts	Line Extensions	Tariffs
Core	Memorandum Account	Taxes
Credit	Metered Energy Efficiency	Text Changes
Curtable Service	Metering	Transformer
Customer Charge	Mobile Home Parks	Transition Cost
Customer Owned Generation	Name Change	Transmission Lines
Decrease Rates	Non-Core	Transportation Electrification
Demand Charge	Non-firm Service Contracts	Transportation Rates
Demand Side Fund	Nuclear	Undergrounding
Demand Side Management	Oil Pipelines	Voltage Discount
Demand Side Response	PBR / Performance Based Ratemaking	Wind Power
Deposits	Portfolio	Withdrawal of Service
Depreciation	Power Lines	



# SOUTHWEST GAS CORPORATION

December 30, 2021

## **Advice Letter No. 1197-G**

(U 905 G)

Public Utilities Commission of the State of California

**Subject: Modifications to Rule No. 22 to Provide Lower and Upper Action Level Specifications for Ammonia, Mercury, and Siloxanes Pursuant to Decision (D.) 20-12-031.**

### **Purpose**

Pursuant to Ordering Paragraph (OP) 11 D.20-12-031 *Adopting the Standard Renewable Gas Interconnection and Operating Agreement*, Southwest Gas Corporation (Southwest Gas) hereby submits this Tier 2 Advice Letter to modify Rule No. 22 - Standard Renewable Gas Interconnections to the Utility's Pipeline System (Rule No. 22), to provide lower and upper action level specifications for ammonia, mercury, and siloxanes in Renewable Gas (RG).<sup>1</sup>

### **Background**

On February 13, 2013, Rulemaking (R.) 13-02-008 was opened to implement Assembly Bill (AB) 1900 (Gatto, 2012), which added Health and Safety Code (HSC) § 25421 and requires the California Public Utilities Commission (Commission) to take certain actions with respect to biogas and biomethane.

Specifically, HSC § 25421(c) required the Commission to adopt biomethane standards that specify the concentration of allowable constituents in biomethane injected into a common carrier pipeline. The adoption of the biomethane standards is to ensure the protection of human health, and to ensure pipeline and pipeline facility integrity and safety.

HSC § 25421(a) specifies that the process for creating and updating human health protection biomethane standards starts with the Office of Environmental Health Hazard Assessment (OEHHA), in consultation with the California Air Resources Board (CARB) and other agencies, which shall compile a list of constituents of concern that could pose risks to human health and that are found in biogas. This review and update procedure is to take place every five years, or earlier if new information becomes available.

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<sup>1</sup> Southwest Gas, Pacific Gas and Electric Company, Southern California Gas Company, and San Diego Gas & Electric Company (collectively, the Joint Utilities) have developed the proposed constituent specifications.



D.14-01-034 adopted the original biomethane standards pursuant to the process established by AB 1900. OP 7 requires the Joint Utilities to file an application at the Commission to formally update biomethane standards within five years from the effective date of the decision. OP 8 states that either OEHHA or CARB can send a letter to the Commission requesting updates to the biomethane standards if they deem it necessary prior to the five-year mark. OP 9 requires the Joint Utilities to specify lower and upper action levels for Integrity Protective Constituents (IPC) ammonia, biologicals, hydrogen, mercury, and siloxanes as part of the process of updating biomethane standards for the first time.

The Joint Utilities requested and received a waiver of their five-year filing obligation by the Commission's Executive Director on December 10, 2018, given that CARB had not published any updated guidance for constituents of concern at that time.

OP 11 of D.20-12-031 states that the Joint Utilities shall provide upper and lower action level specifications in a joint filing to be submitted to the Commission no later than April 1, 2021 for biologicals<sup>2,3</sup> and January 1, 2022 for ammonia, mercury, and siloxanes. Upper and lower action levels of hydrogen will be established pursuant to Phase 4 of R.13-02-008.

### **Proposed Lower and Upper Constituent Specifications**

Southwest Gas in conjunction with the Joint Utilities propose the following Trigger Level, Lower Action Level (LAL), and Upper Action Level (UAL) constituent specifications for ammonia, mercury, and siloxanes as shown in Table 1 below.

**Table 1**

<b>Constituent</b>	<b>Current Trigger Level</b>	<b>Proposed Trigger Level<sup>1</sup></b>	<b>Proposed Lower Action Level</b>	<b>Proposed Upper Action Level</b>
Ammonia	0.001%	0.0004% (3 mg/m <sup>3</sup> )	0.001% (7 mg/m <sup>3</sup> )	0.0025% (18 mg/m <sup>3</sup> )
Mercury	0.08 mg/m <sup>3</sup>	0.08 mg/m <sup>3</sup>	TBD	TBD
Siloxane	0.01 mg Si/m <sup>3</sup>	0.05 mg Si/m <sup>3</sup>	0.1 mg Si/m <sup>3</sup> (No Change Proposed)	0.3 mg Si/m <sup>3</sup>

<sup>2</sup> On April 1, 2021, Southwest Gas filed Advice Letter No. 1171-G to establish lower and upper action levels for biologicals contained in its Gas Rule No. 22, and the Advice Letter was approved by the Commission, effective May 1, 2021.

<sup>3</sup> Pursuant to direction provided by Energy Division staff on March 19, 2021, the Joint Utilities were instructed to submit separate Advice Letters instead of a joint submission. This allows each utility to submit their own tariff sheet modifications, which would not be possible with a joint Advice Letter submission.



### **Discussion on Ammonia**

Ammonia is a colorless gas with a noxious odor found in nature through the process of anaerobic decay of plant and animal matter. Ammonia may potentially be found in biogas sourced from dairies and other farming operations, wastewater treatment plants, landfills, food waste, and other organic wastes, and when combusted can increase nitrogen oxides (NOx) emissions from sensitive gas-fired equipment.

Based on findings available in the literature on the impact of ammonia on increasing NOx emissions on gas-fired equipment,<sup>4,5</sup> Southwest Gas proposes a LAL of 10 parts per million (ppm<sub>v</sub>) or 0.001% (7 mg/m<sup>3</sup>). This LAL is an industry best practice that would allow Southwest Gas to safely monitor the gas supply and shut-in gas with high ammonia levels that could increase NOx emissions on gas fired equipment.

Southwest Gas proposes a UAL of 25 ppm<sub>v</sub> or 0.0025% (18 mg/m<sup>3</sup>) to control NOx emissions.

Southwest Gas is unaware of any research studies that show a negative impact on integrity of pipeline system infrastructure at the LAL or UAL levels recommended above.

It should be noted that since the proposed LAL is the same as the current Trigger Level, Southwest Gas proposes to reduce the Trigger Level from 0.001% to 0.0004% or 4 ppm<sub>v</sub> (3 mg/m<sup>3</sup>)<sup>6</sup> based on levels recommended by MarcoGaz<sup>7</sup>, Canadian Gas Association<sup>8</sup> and used by Fortis BC.

### **Discussion on Mercury**

Mercury in the gas stream has the potential to cause corrosion to metals such as aluminum and copper, depending on exposure time and operating conditions. The Trigger Level of 0.08 mg/m<sup>3</sup> implemented by the Joint Utilities in 2014 originated from a literature review and was consistent with professional publications which found that a mercury

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<sup>4</sup> Pollutant Formation during Utilization of Renewable Natural Gas Containing Trace Ammonia Impurities at p. 19178, available at <https://pubs.acs.org/doi/10.1021/acs.iecr.0c03407>.

<sup>5</sup> Bay Area Air Quality Management Regulation 9, Rule 6: Nitrogen Oxides Emissions from Natural Gas-Fired Water Heaters-Adopted at 9-6-3, available at <https://www.baaqmd.gov/rules-and-compliance/rules/reg-9-rule-6-nitrogen-oxides-emissions-from-natural-gas-fired-water-heaters>.

<sup>6</sup> Southwest Gas recognizes that OP 11 of D.20-12-031 does not specifically authorize revision of the Trigger Level. However, a reduced Trigger Level will permit monitoring of the ammonia concentration prior to the Lower Action Level being reached. If the Commission does not approve the reduced Trigger Level, Southwest Gas requests that the current Trigger Level of 0.001% be retained.

<sup>7</sup> See [https://www.marco gaz.org/wp-content/uploads/2021/04/WG\\_GQ-187.pdf](https://www.marco gaz.org/wp-content/uploads/2021/04/WG_GQ-187.pdf)

<sup>8</sup> 2018 AGA-EPA Renewable Natural Gas Workshop Presentation at Slide 6, available at [https://www.epa.gov/sites/default/files/2018-11/documents/15\\_jim\\_tweedie\\_-\\_508.pdf](https://www.epa.gov/sites/default/files/2018-11/documents/15_jim_tweedie_-_508.pdf)



content of 0.085 mg/m<sup>3</sup> is a cause for concern<sup>9</sup>. Efforts by the Joint Utilities to establish a LAL and UAL have resulted in sponsored literature reviews and industry studies, along with data gathering through operational experience with active RG projects.

Industry research is largely limited to the impact of mercury on infrastructure used for cryogenic operations, where liquefied natural gas equipment shows corrosion, such as brazed aluminum heat exchangers, and as a result a cryogenic limit for mercury was established at 10 ng/m<sup>3</sup> (or 0.00001 mg/m<sup>3</sup> for reference). It is important to note that cryogenic operations are not applicable to the Joint Utilities' service territories in California. Additionally, it is common practice by cryogenic operators to use mercury guard beds to protect equipment integrity from the risks that mercury poses.

The focus of the Joint Utilities is on the effects of mercury on the natural gas pipeline infrastructure and end-user equipment, rather than cryogenic operations. A literature review conducted by the University of Southern California School of Engineering on Mercury in Natural Gas and Biogas<sup>10</sup> concluded that additional studies are necessary to assess the impact of mercury on non-cryogenic end-user equipment. This literature research sponsored by SoCalGas<sup>11</sup> did not identify any specific studies on the effects of mercury or its derivatives in natural gas pipeline systems.

Recently, the Joint Utilities financially supported an industry study by NYSEARCH (Gap Analysis of Limits of Trace Constituents in RG)<sup>12</sup> with the intent of having mercury included to substantiate developing a LAL and UAL. However, the researchers did not consider future testing of mercury necessary for the next phase of their study on appliances because the industry already had an established cryogenic limit (10 ng/m<sup>3</sup>).

SoCalGas has interconnected numerous RG projects and collected operational data from a diverse mix of RG gas supplies including dairy, wastewater, and other organic sources. Gas quality in these projects has not shown mercury at a concentration exceeding the current Trigger Level, suggesting that mercury concentration at a level that would present an integrity concern is not a likely occurrence for these RG sources. Landfill RG projects, a likely source of mercury, are not currently interconnected to any of the Joint Utilities' gas systems to facilitate gaining operational experience or performing any field tests. Landfill projects are expected to interconnect within the next two to three years. Therefore,

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<sup>9</sup> From R.13-02-008 (September 5, 2013), at p. 16. Joint Opening Brief of Southern California Gas Company (U 904 G), San Diego Gas & Electric Company (U 902 G), Pacific Gas and Electric Company (U 39 G), and Southwest Gas Corporation (U 905 G) [Ex. Utilities-3 (Rivera/Raymundo/Frehse ) at 10 (referencing American Society for Materials, Corrosion Handbook vol. 13 at 551)].

<sup>10</sup> Literature Review on Mercury in Natural Gas and Biogas in the RD&D Annual Report available at <https://www.socalgas.com/sustainability/research-and-development>.

<sup>11</sup> *Id.*

<sup>12</sup> See [https://www.nysearch.org/tech-brief\\_4\\_05-2021.php](https://www.nysearch.org/tech-brief_4_05-2021.php).



Southwest Gas proposes to continue to monitor available literature and gather operational data to support a UAL/LAL recommendation once sufficient information is available.

### **Discussion on Siloxanes**

Siloxanes are often found in industrial and consumer beauty and personal hygiene products, such as cosmetics, cleaning agents and lubricants. Siloxanes may potentially be found in biogas sourced from dairies, wastewater, and landfills.

Southwest Gas proposes no change to the current LAL of 0.1 mg Si/m<sup>3</sup> as this limit was re-confirmed by additional testing conducted by NYSEARCH on residential appliances.<sup>13</sup>

Southwest Gas proposes that a UAL of 0.3 mg Si/m<sup>3</sup> would sufficiently protect the lifespan of residential customer appliances between test periods, as shown by testing conducted by NYSEARCH.<sup>14</sup> This limit is also supported by the European Committee for Standardization of specifications for biomethane as a fuel for engines (CEN/TC 408).<sup>15</sup>

Additionally, Southwest Gas proposes a revised Trigger Level of 0.05 mg Si/m<sup>3</sup> based on demonstrated minimum detection level by commercial laboratories and monitors offering this service to RG producers. The Joint Utilities are awaiting the results of an ASTM Inter-Laboratory study (ILS) conducted by the Gas Technology Institute for the Operations Technology Development group<sup>16</sup> to make future updates in testing standards for precision, repeatability, and reproducibility. The project is in progress and it is expected to be completed by end of next year, 2022.<sup>17</sup>

### **Proposed Tariff Revision to Rule No. 22**

- Modify Renewable Gas Quality and Specifications Section K.2.a. Table 1 Maximum Constituent Concentrations
- Ammonia – Trigger Level, LAL and UAL
- Mercury – No Change
- Siloxanes – Trigger Level and UAL

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<sup>13</sup> NYSEARCH Natural Gas RD&D: Testing of Residential Appliances for Impact of Siloxanes available at: <https://www.nysearch.org/tech-brief-4-siloxane-appliance-impact.php>

<sup>14</sup> *Id.*

<sup>15</sup> CEN/TC 408 – Project Committee – Biomethane For Use in Transport and Injection in Natural Gas Pipelines available at <https://standards.iteh.ai/catalog/tc/cen/4a70e2ba-a169-4c8a-97b2-dc59bc46aa93/cen-tc-408>

<sup>16</sup> Operations Technology Development is a member-controlled partnership of gas distribution companies to develop, test, and implement new technologies related to safe and reliable operation of infrastructure.

<sup>17</sup> Considering the necessary reviews, statistics, ballots, and publication time for ASTM It is customary for ILS to be completed within 5 years of publishing a new ASTM standard and in this case by 2024.





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### **Effective Date**

This Advice Letter is submitted in compliance with OP 11 in D.20-12-031. Therefore, Southwest Gas believes this Advice Letter should be classified as Tier 2 (Effective after Energy Division Disposition) pursuant to General Order (GO) 96-B. Southwest Gas respectfully requests that this Advice Letter be approved January 29, 2022, which is thirty (30) calendar days after the date submitted.

### **Protest**

Anyone may protest this Advice Letter to the Commission. The protest must state the grounds upon which it is based with specificity. The protest must be sent no later than 20 days after the date of this Advice Letter submission, and shall be sent by letter via U.S. Mail, email or facsimile. The address for mailing or delivering a protest to the Commission is:

ATTN: Tariff Unit  
Energy Division  
California Public Utilities Commission  
505 Van Ness Avenue, 4<sup>th</sup> Floor  
San Francisco, CA 94102  
Email: [edtariffunit@cpuc.ca.gov](mailto:edtariffunit@cpuc.ca.gov)  
Facsimile: 415-703-2200

Copies should also be mailed to the attention of the Director, Energy Division, Room 4004, at the same address as above and mailed, emailed or faxed to:

Ms. Valerie J. Ontiveroz  
Regulatory Manager/California  
Southwest Gas Corporation  
P.O. Box 98510  
Las Vegas, NV 89193-8510  
Email: [valerie.ontiveroz@swgas.com](mailto:valerie.ontiveroz@swgas.com)  
Facsimile: 702-364-3446

Please also direct any other communications regarding this Advice Letter to the above-named individual.

### **Notice**

Southwest Gas believes it is exempt from the notice requirements set forth in General Rule 4.2 of GO 96-B, since this Advice Letter is being submitted pursuant to OP 11 in D.20-12-031 and will not increase any rate or charge, cause the withdrawal of service, or conflict with any other schedule or rule that are currently in effect.



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**Service**

In accordance with GO 96-B, General Rule 7.2, Southwest Gas is serving copies of this Advice Letter to the utilities and interested parties shown on the attached distribution list and the service list in R.13-02-008.

Respectfully submitted,  
SOUTHWEST GAS CORPORATION

By:   
Valerie J. Ontiveroz

Attachments

## **Distribution List**

Advice Letter No. 1197-G

In conformance with GO 96-B, General Rule 4.3

The following individuals or entities have been served by electronic mail:

Amy Yip-Kikugawa, Acting Director  
Public Advocates Office  
[amy.yip-kikugawa@cpuc.ca.gov](mailto:amy.yip-kikugawa@cpuc.ca.gov)

Pacific Gas & Electric Company  
[PGETariffs@pge.com](mailto:PGETariffs@pge.com)

Southern California Gas Company  
[ROrtiz@SempraUtilities.com](mailto:ROrtiz@SempraUtilities.com)

San Diego Gas & Electric Company  
[SDG&ETariffs@SempraUtilities.com](mailto:SDG&ETariffs@SempraUtilities.com)

Robert M. Pocta  
Public Advocates Office  
California Public Utilities Commission  
[robert.pocta@cpuc.ca.gov](mailto:robert.pocta@cpuc.ca.gov)

Nathaniel Skinner  
Public Advocates Office  
California Public Utilities Commission  
[nathaniel.skinner@cpuc.ca.gov](mailto:nathaniel.skinner@cpuc.ca.gov)

Pearlie Sabino  
Public Advocates Office  
California Public Utilities Commission  
[pearlie.sabino@cpuc.ca.gov](mailto:pearlie.sabino@cpuc.ca.gov)

ATTACHMENT A  
Advice Letter No. 1197-G

Cal. P.U.C. Sheet No.	Title of Sheet	Canceling Cal. P.U.C. Sheet No.
2nd Revised Sheet No. 279.14.16	Rule No. 22 – Standard Renewable Interconnections to the Utility’s Pipeline System ( <i>Continued</i> )	1st Revised Sheet No. 279.14.16

RULE NO. 22

Sheet 35

**STANDARD RENEWABLE GAS INTERCONNECTIONS  
TO THE UTILITY'S PIPELINE SYSTEM (Continued)**

**K. RENEWABLE GAS QUALITY AND SPECIFICATIONS (Continued)**

<b>Table 1 (Continued)</b>						
<b>Maximum Constituent Concentrations</b>						
<b>Renewable Gas Injection Constituents</b>				<b>Testing for Gas Source</b>		
	<b>Trigger Level</b>	<b>Lower Action Level</b>	<b>Upper Action Level</b>	<b>Non-Hazardous Landfill</b>	<b>Dairies</b>	<b>Other<sup>4</sup></b>
<b>Integrity Protective Constituents<sup>3</sup></b>						
Ammonia	0.0004%	0.001%	0.0025%	■	■	■
Hydrogen	0.10%	TBD <sup>5</sup>	TBD <sup>5</sup>	■	■	■
Mercury	0.08 mg/m <sup>3</sup>	TBD <sup>5</sup>	TBD <sup>5</sup>	■	■	■
Siloxanes	0.05 mg Si/m <sup>3</sup>	0.1 mg Si/m <sup>3</sup>	0.3 mg Si/m <sup>3</sup>	■	■	■

**Notes:**

- Base Utility Gas Specifications are identified in K1.
- Health Protective Constituents (HPC) are shown in Table V-3 of the CARB/OEHHA Report.
- Integrity Protective Constituents are shown in Section 4.4.3.3 of D.14-01-034 and identified as pipeline integrity protective constituents.
- Other organic sources, includes all Biogas sources other than landfill and dairy manure, including but not limited to, a sewage treatment plant or wastewater plant ("Publicly Owned Treatment Works" or "POTW").
- The Lower and Upper Action Levels will be reviewed in the next update proceeding.
- Testing requirement will be the stricter of the stated Renewable Gas values or other tariff requirements.
- The Interconnector that meets this Rule's Section K.4.b certification requirements shall have reduced siloxanes testing requirements. Utility, at its discretion and at its own cost, may still test pursuant to Utility's applicable tariff rules. If the Utility test results show the siloxanes levels exceed the Lower Action Level, the full siloxanes testing requirements will apply as described in this Rule.

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**ADVICE LETTER NO. 1197**  
**ATTACHMENT B**

Tariff Sheet Redlines

RULE NO. 22

Sheet 35

**STANDARD RENEWABLE GAS INTERCONNECTIONS  
TO THE UTILITY'S PIPELINE SYSTEM (Continued)**

**K. RENEWABLE GAS QUALITY AND SPECIFICATIONS (Continued)**

Table 1 (Continued) Maximum Constituent Concentrations						
Renewable Gas Injection Constituents				Testing for Gas Source		
	Trigger Level	Lower Action Level	Upper Action Level	Non-Hazardous Landfill	Dairies	Other <sup>4</sup>
<b>Integrity Protective Constituents<sup>3</sup></b>						
Ammonia	<del>0.004</del> <u>0.004</u> %	<del>TBD<sup>5</sup></del> <u>0.001</u> %	<del>TBD<sup>5</sup></del> <u>0.0025</u> %	■	■	■
Hydrogen	0.10%	TBD <sup>5</sup>	TBD <sup>5</sup>	■	■	■
Mercury	0.08 mg/m <sup>3</sup>	TBD <sup>5</sup>	TBD <sup>5</sup>	■	■	■
Siloxanes <sup>8</sup>	<del>0.04</del> <u>0.05</u> mg Si/m <sup>3</sup>	0.1 mg Si/m <sup>3</sup>	<del>TBD<sup>5</sup></del> <u>0.3</u> mg Si/m <sup>3</sup>	■	■	■
<b>Notes:</b> 1. Base Utility Gas Specifications are identified in K1. 2. Health Protective Constituents (HPC) are shown in Table V-3 of the CARB/OEHHA Report. 3. Integrity Protective Constituents are shown in Section 4.4.3.3 of D.14-01-034 and identified as pipeline integrity protective constituents. 4. Other organic sources, includes all Biogas sources other than landfill and dairy manure, including but not limited to, a sewage treatment plant or wastewater plant ("Publicly Owned Treatment Works" or "POTW"). 5. The Lower and Upper Action Levels will be <del>established</del> <u>reviewed</u> in the next update proceeding. 6. Testing requirement will be the stricter of the stated Renewable Gas values or other tariff requirements. 7. The Interconnector that meets this Rule's Section K.4.b certification requirements shall have reduced siloxanes testing requirements. Utility, at its discretion and at its own cost, may still test pursuant to Utility's applicable tariff rules. If the Utility test results show the siloxanes levels exceed the Lower Action Level, the full siloxanes testing requirements will apply as described in this Rule.						



# ADVICE LETTER SUMMARY

## ENERGY UTILITY



MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No.:

Utility type:

- ELC       GAS       WATER  
 PLC       HEAT

Contact Person:

Phone #:  
E-mail:  
E-mail Disposition Notice to:

EXPLANATION OF UTILITY TYPE

ELC = Electric      GAS = Gas      WATER = Water  
 PLC = Pipeline      HEAT = Heat

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #:

Tier Designation:

Subject of AL:

Keywords (choose from CPUC listing):

AL Type:  Monthly  Quarterly  Annual  One-Time  Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #:

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL:

Summarize differences between the AL and the prior withdrawn or rejected AL:

Confidential treatment requested?  Yes  No

If yes, specification of confidential information:

Confidential information will be made available to appropriate parties who execute a nondisclosure agreement. Name and contact information to request nondisclosure agreement/ access to confidential information:

Resolution required?  Yes  No

Requested effective date:

No. of tariff sheets:

Estimated system annual revenue effect (%):

Estimated system average rate effect (%):

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected:

Service affected and changes proposed<sup>1</sup>:

Pending advice letters that revise the same tariff sheets:

<sup>1</sup>Discuss in AL if more space is needed.



**Protests and all other correspondence regarding this AL are due no later than 20 days after the date of this submittal, unless otherwise authorized by the Commission, and shall be sent to:**

CPUC, Energy Division  
Attention: Tariff Unit  
505 Van Ness Avenue  
San Francisco, CA 94102  
Email: [EDTariffUnit@cpuc.ca.gov](mailto:EDTariffUnit@cpuc.ca.gov)

Name:  
Title:  
Utility Name:  
Address:  
City: State:  
Telephone (xxx) xxx-xxxx:  
Facsimile (xxx) xxx-xxxx:  
Email:

Name:  
Title:  
Utility Name:  
Address:  
City: State:  
Telephone (xxx) xxx-xxxx:  
Facsimile (xxx) xxx-xxxx:  
Email:

## ENERGY Advice Letter Keywords

Affiliate	Direct Access	Preliminary Statement
Agreements	Disconnect Service	Procurement
Agriculture	ECAC / Energy Cost Adjustment	Qualifying Facility
Avoided Cost	EOR / Enhanced Oil Recovery	Rebates
Balancing Account	Energy Charge	Refunds
Baseline	Energy Efficiency	Reliability
Bilingual	Establish Service	Re-MAT/Bio-MAT
Billings	Expand Service Area	Revenue Allocation
Bioenergy	Forms	Rule 21
Brokerage Fees	Franchise Fee / User Tax	Rules
CARE	G.O. 131-D	Section 851
CPUC Reimbursement Fee	GRC / General Rate Case	Self Generation
Capacity	Hazardous Waste	Service Area Map
Cogeneration	Increase Rates	Service Outage
Compliance	Interruptible Service	Solar
Conditions of Service	Interutility Transportation	Standby Service
Connection	LIEE / Low-Income Energy Efficiency	Storage
Conservation	LIRA / Low-Income Ratepayer Assistance	Street Lights
Consolidate Tariffs	Late Payment Charge	Surcharges
Contracts	Line Extensions	Tariffs
Core	Memorandum Account	Taxes
Credit	Metered Energy Efficiency	Text Changes
Curtable Service	Metering	Transformer
Customer Charge	Mobile Home Parks	Transition Cost
Customer Owned Generation	Name Change	Transmission Lines
Decrease Rates	Non-Core	Transportation Electrification
Demand Charge	Non-firm Service Contracts	Transportation Rates
Demand Side Fund	Nuclear	Undergrounding
Demand Side Management	Oil Pipelines	Voltage Discount
Demand Side Response	PBR / Performance Based Ratemaking	Wind Power
Deposits	Portfolio	Withdrawal of Service
Depreciation	Power Lines	